

1 & 2. Applicants acknowledge that Applicants' election of Group II has been made final. Applicants further acknowledge that claim 4 has been withdrawn from further consideration because it is drawn to a nonelected invention.

3. Applicants note with appreciation that the objection of claims 11-17 under 37 CFR 1.75c has been withdrawn.

4. Applicants note with appreciation that the provisional rejection of claims 1, 18, and 19 under the judicially created doctrine of double patenting over claims of copending Application No. 09/090,622 has been rendered moot by the cancellation of the claims.

5. Applicant note with appreciation that the provisional rejection of claims 3, 5-8, and 20 under the judicially created doctrine of double patenting over claims of copending Application No. 09/090,622 has been withdrawn.

6. Applicants note with appreciation that the rejection of claims 1, 18, and 19 under the judicially created doctrine of double patenting over claims of US Patent No. 6,288, 048 has been rendered moot by the cancellation of the claims.

7. Applicants note with appreciation that the rejection of claims 3, 5-8, and 20 under the judicially created doctrine of double patenting over claims of US Patent No. 6,288,048 has been withdrawn.

8. Claims 3, 5-8, 11-7, 20, 22, and 24-26 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 15-17, 20, 21, 27, 28, 36 of copending Application No. 09/708,964. Applicants will amend the claims and/or file a terminal disclaimer upon indication of allowable subject matter.

9. Applicants note that the rejection of claims 1, 18, and 19 under 35 U.S.C. 112, first paragraph, has been rendered moot by the cancellation of the claims.

10 Applicants note with appreciation that the rejection of claim 20 under 35 U.S.C. 112, first paragraph, has been withdrawn.

11 Applicants note with appreciation that the rejection of claim 3 under 35 U.S.C. 112, first paragraph, has been withdrawn.

12. Applicants note that the rejection of claims 1, 18, and 19 under 35 U.S.C. 112, second paragraph, has been rendered moot by the cancellation of the claims.

13. Applicants note with appreciation that the rejection of claims 3, 7, and 18-20 under 35 U.S.C. 112, second paragraph, has been withdrawn.

14. Claims 5, 6, 8, and 11 are rejected under 35 U.S.C. 112, second paragraph. Applicants respectfully traverse the rejection to the extent that it is maintained over the amended claims.

i. Claims 5, 6, and 8 are deemed indefinite because of the claims recite that R<sub>4</sub>, and R<sub>5</sub> in claim 5 and 6, and R<sub>3</sub> in claim 8 can be =O or =S. Applicants have amended the claims to remove =O and =S from recitation of possible functional groups for R<sub>3</sub> and R<sub>5</sub>, in claims 5 and 6, and R<sub>3</sub> in claim 8. Applicants submit that one of ordinary skill in the art would have readily recognized such a substituent was not an appropriate substituent for R<sub>3</sub> and R<sub>5</sub> in claims 5 and 6, and R<sub>3</sub> in claim 8 because, as the Office Action pointed out, such substituents would cause the carbons to which the substituents are attached to exceed their valences. Applicants submit that the claims are definite as amended. Accordingly, Applicants respectfully request reconsideration and removal of the rejection.

ii. Claim 11 is deemed indefinite for reciting the phrase “and their derivatives.” Applicants have removed the phrase from the claim. Applicants submit that the amended claim is definite. Accordingly, Applicants respectfully request reconsideration and removal of the rejection.

15. Applicants note that the rejection of claim 19 under 35 U.S.C. 102(b) has been rendered moot by the cancellation of the claim.

16. Applicants note with appreciation that rejection of claims 1, 3, 5-8, 18, and 20 under 35 U.S.C. 102(b) over Gerashchenko et al. is withdrawn.

17. Applicants note with appreciation that rejection of claims 1, 3, 5-8, and 18 under 35 U.S.C. 102(b) over Beachy et al. ('091) is withdrawn.

18. Applicants note with appreciation that rejection of claims 1, 3, 5-8, and 18 under 35 U.S.C. 102(b) over Beachy et al. ('048) is withdrawn.

19. Claims 24, 25, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Gerashchenko et al. The Office Action stated that "Gerashchenko et al. teach a composition comprising jervine and its anti-inflammatory activity... [the] composition and process of making said composition taught by the reference are encompassed by the instant claims." Applicants respectfully traverse the rejection to the extent it is maintained over the amended claims.

Applicants submit that rejection of claim 24 and 25 has been rendered moot because Applicants have cancelled claim 25 and amended claim 24 to directed to pharmaceutical preparations formulated for topical administrations. Applicants point out that Gerashchenko et al. only teach aqueous preparations of jervine that were injected into mouse paws. As such Gerashchenko et al. do not teach or suggest pharmaceutical preparations formulated for topical applications. Applicants submit that the rejection of claim 26 has been rendered moot because Applicants have amended the claim by removing the phrase "preventing growth of cells having an aberrant activation hedgehog pathway" and replacing it by "treating unwanted hair growth or inhibiting spermatogenesis." Applicants assert that Gerashchenko et al. do not teach treating unwanted hair growth or inhibiting spermatogenesis. Thus, Applicants assert that Gerashchenko et al. do not anticipate the instant claims. Accordingly, Applicants respectfully request reconsideration and removal of the rejection.

20. Claims 24, 25, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Omnell et al. The Office Action stated that "Omnell et al. teach an aqueous suspension comprising jervine and its teratogenic response in mice...[the] composition and process of making said composition taught by the reference are encompassed by the instant claims." Applicants have cancelled claim 25. Applicants respectfully traverse the rejection to the extent it is maintained over the amended claims.

Applicants submit that rejection of claim 24 has been rendered moot because Applicants have amended the claim to direct it to pharmaceutical preparations formulated for topical administration. Applicants point out that Omnell et al. do not anticipate claim 24 as amended

because Omnell et al. only teach aqueous preparations of jervine which were formulated for a gavage application. Applicants submit that the rejection of claim 26 has been rendered moot because Applicants have amended the claim by removing the phrase “preventing growth of cells having an aberrant activation hedgehog pathway” and replacing it by “treating unwanted hair growth or inhibiting spermatogenesis.” Applicants assert that Omnell et al. do not teach treating unwanted hair growth or inhibiting spermatogenesis. Thus, Applicants assert that Omnell et al. do not anticipate the instant claims. Accordingly, Applicants respectfully request reconsideration and removal of the rejection.

21. Applicants note that rejection of claim 18 under 35 U.S.C. 103(a) over Gerashchenko et al. been rendered moot by the cancellation of the claim.

22. Applicants note that rejection of claim 19 under 35 U.S.C. 103(a) over Beachy et al.('091) been rendered moot by the cancellation of the claim.

23. Applicants note that rejection of claim 19 under 35 U.S.C. 103(a) over Beachy et al.('048) been rendered moot by the cancellation of the claim.

24. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gerashchenko et al. or Omnell et al. Applicants assert that the rejection has been rendered moot in light of Applicant's cancellation of claim 25 and amendment of claim 24. Specifically, neither Gerashchenko et al. nor Omnell et al. teach or suggest topical formulations. Omnell et al. only teach aqueous preparations of jervine which were formulated for a gavage application. Geraschenko et al. only teach aqueous preparations of jervine that were injected into mouse paws. Neither reference provides any suggestion that would lead one of ordinary skill to contemplate using a topical delivery instead of an injection or gavage. Thus one of ordinary skill in the art, having read Gerashchenko et al. or Omenell et al., would not have had the requisite motivation to prepare topical formulations comprising compounds represented by formula I. Applicants assert that in the absence of such a motivation, a reasonable expectation of success is moot. Accordingly, Applicants respectfully request reconsideration and removal of the rejection.

### CONCLUSION

For the foregoing reasons, Applicants respectfully request reconsideration and withdrawal of the pending rejections. Applicants believe that the claims are now in condition for allowance and early notification to this effect is earnestly solicited. Any questions arising from this submission may be directed to the undersigned at (617) 951-7000. If there are any other fees due in connection with the filing of this submission, please charge the fees to our **Deposit Account No. 18-1945**. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit account.

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Respectfully Submitted,



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